yellowish white; crown and a vertebral line running from the neck to the tip of the tail black.

Hab. North-east Australia, neighbourhood of Rockhampton.

5. Notes on Australian Freshwater Fishes, and Descriptions of Four New Species. By Gerard Krefft.

The scanty knowledge which we possess of the fishes inhabiting our freshwater streams has induced me to pay some attention to this subject; and I now furnish a list of species of the several rivers from which I have received specimens. To begin with our immediate neighbourhood, I find that up to the present time not more than four species have been captured in the streams emptying into Port Jackson and Botany Bay:—namely, *Eleotris australis*, sp. nov.; *Mugil dobula*, Gthr.; *Anguilla australis*, Rich.; and *Galaxias scriba*. These four species we find in almost every stream, swamp, and lagoon, *Galaxias scriba* even in old wells or other water-holes on the top of hills, which have no connexion with any of the running streams. *Anguilla australis* is also frequently found in detached pools of water; whilst *Eleotris australis* frequents the clearer streamlets. I have never had an opportunity of examining the creeks which are situated upon the north shore of Port Jackson, nor have I ever received specimens captured there; but I have reason to believe that, besides the four kinds of fish mentioned, there exists a larger freshwater species, commonly called "Perch," probably a *Therapon*, which is not found in the salt water of the harbour.

With regard to the fishes of the Nepean or Hawkesbury, its tributaries, and the swamps and lagoons with which this river is occasionally connected during high floods, I am enabled to give a better account. I have drawn the seine in the Hawkesbury between Windsor and Richmond, about fifty miles from its mouth, where the water is as fresh as that of any mountain-stream; and the result was, at a haul, about 200 so-called "Mullets" (two species, *Mugil dobula*, Gthr., and *Mugil compressus*, Gthr.), two "Eels" (*Anguilla australis*, Rich.), a "Perch" (*Lates colonorum*, Gthr., Ann. N. H. 1863, xi. p. 114), and a "Rock Cod" (*Dertropogon robustus*, Gthr.). How this last fish managed to go so far up a freshwater river I could not understand. It has all the appearance of a true sea-fish; and yet I took it subsequently much further up the river, between the mountains, whilst I have also received two specimens captured with hook and line in Mr. Pitt's lagoon near Bronte—a lagoon which, Mr. Pitt informs me, has not been flooded during the last four years. There is another fish, called a "Bream" by the settlers, which we did not succeed in capturing (this is probably *Beryx affinis*), and a second species of Perch, which may prove to be new. At a second haul a true Flat-head (*Platycephalus tasmanius*, Rich.) was secured, besides the usual amount of "Mullet" and "Perch." The smaller fry, as *Galaxias scriba*, Rich., and the so-called Sprat

(*Megalops setipinnis*, Rich.), were taken with hook and line. The last-mentioned species affords a good deal of sport, as it will rise to a fly. I mention this fact, as some authors have denied that fly-fishing existed in Australia.

The genus *Eleotris* I found well represented in this river; and I give a short description of four new species.

ELEOTRIS COXII, sp. nov.

D. C. $\frac{1}{9}$. A. 1/9. L. lat. 36 to 38.

Twelve series of scales between the origin of the posterior dorsal and the anal. Head scaly; snout obtuse, with the lower jaw prominent. The height of the body is contained five times and a quarter in the total length; the length of the head more than four times; the horizontal diameter of the eye is one-fourth of the length of the head, and equal to the width of the interorbital space.

Coloration bright yellow; upper part and sides finely punctured with black, forming a broad, sometimes indistinct streak upon the sides. Dorsals and pectorals bright yellow at the base, the first punctured with black; belly whitish. Teeth villiform, in broad bands. Anal papilla large, somewhat longer than broad.

Total length $5\frac{1}{4}$ inches.

Hab. Lagoon near Bronte, Upper Hawkesbury River.

ELEOTRIS AUSTRALIS, sp. nov.

D. 7 $\frac{1}{8}$. A. $\frac{1}{8}$. L. lat. 32.

Eight series of scales between the origin of the posterior dorsal fin and the anal. Head scaly, as far as the snout, obtuse; lower jaw prominent; teeth in villiform bands. The height of the body is contained four times and a half in the total length, and the head four times and a quarter; the horizontal diameter of the eye is one-half the width of the interorbital space. General coloration yellowish brown, covered with minute black spots, which form five or six longitudinal lines upon the sides; base of pectorals with a narrow bright yellow band; all the rays of the caudal spotted with black; second dorsal with three or four narrow, sometimes indistinct bands. Anal papilla as long as the horizontal diameter of the eye, and nearly as broad. Total length 5 inches.

Hab. Creeks near Sydney, Hawkesbury River and its tributaries, Hunter River, and Clarence River.

ELEOTRIS GRANDICEPS, sp. nov.

D. 7 1/9. A. $\frac{1}{9}$. L. lat. 38 to 40.

Twelve series of scales between the origin of the posterior dorsal fin and the anal. Head very large, broad, depressed, without any apparent scales; lower jaw prominent; teeth villiform. The height of the body is contained five times in the total length, and that of the head three times and a half. The diameter of the eye is one-fifth of the length of the head, and nearly one-half of the interorbital

space; the pectorals reach to the origin of the anal fin. General coloration yellowish, punctured with black in particular on the upper part and sides; snout blackish; lower jaw sometimes punctured with black also; beneath whitish. Anal papilla very small. Total length $3\frac{1}{2}$ inches.

Hab. Upper Hawkesbury River; freshwater lagoons near Bronte and Richmond, Eastern Creek, and other tributaries of the Hawkesbury.

There are just twelve species of fishes from the Nepean and Hawkesbury; but I am assured by Mr. George M. Pitt, jun., to whom I am chiefly indebted for my specimens, that the river contains more than twenty different kinds of fish: the remaining species I hope to capture during the course of this summer, and I shall furnish an account of them in due time. Of our northern rivers, the Hastings, the Richmond, and the Clarence, I know but little; that they team with fish there is no doubt, and that many new genera and species will be found amongst them is certain. Many of the settlers upon the banks of these streams have promised their co-operation; and Mr. James F. Wilcox, who resides on the Clarence River, has supplied me already with many interesting specimens. I received from him *Oligorus macquariensis*, Cuv. & Val., *Therapon unicolor* (?), *Galaxias scriba*, Rich., *Eleotris mogunda*, Rich., and *E. compressus*, sp. nov., which may be described as follows:—

Eleotris compressus, sp. nov.

D. C. $\frac{1}{9}$ to 10. A. $\frac{1}{10}$. L. lat. 28/30.

Eight series of scales between the origin of the posterior dorsal fin and the anal. Body cyprinoid, compressed; the height of the body is contained three times and three-quarters in the total length, and the head four times; the horizontal diameter of the eye is one-fourth of the length of the head, and is contained once and a half in the interorbital space; the snout is short, lower jaw longest; mouth rather small; head scaly.

Coloration reddish brown, with five or six indistinct cross bands, formed of the close-dotted black spots with which the scales are covered. The second dorsal and the anal are rather long, and more or less marked with black at the base and top; besides this, the hinder part of the second dorsal is speckled with white. Anal papilla of moderate size and forked. Total length $3\frac{1}{2}$ inches.

Hab. Clarence River, and creeks near Port Denison. Discovered by Mr. James F. Wilcox.

6. Description of a New Species of the Genus Mergus. By John Gould, F.R.S., etc.

Mergus squamatus, Gould.

Crown of the head, lengthened crest, and neck rusty brown; upper surface brownish grey; tuft of feathers at the insertion of the wing